



Inside the Star



**CFC
Community
Service Days,
pages 6-7**

**Disabilities
Awareness
Month, page 2**



**Tri-lateral
Alliance reaches
agreement,
page 3**

- **Get flu shots, page 3**
- **Blumberg named NASA senior adviser, page 4**
- **Galileo, Cassini double-team Jupiter, page 9**

Twin engine tests for X-33 take shape in Mississippi

Two unique engines designed to propel the Marshall-managed X-33 into high-speed, suborbital flight in 2003 have been mounted side by side in a Mississippi test stand for qualification firings, now slated for later this year.

At NASA's Stennis Space Center in Mississippi, tandem test firings of X-33's Linear Aerospike XRS-2200 engines will begin with short bursts and will eventually lead to full firings for durations needed to send the unpowered vehicle from a launch pad in California to landings in either Utah or Montana.

X-33, being developed under a cooperative agreement between NASA and Lockheed Martin, is a half-scale prototype of a commercially developed and operated, reusable launch vehicle of the future, and is designed to demonstrate new, reusable single-stage-to-orbit technologies. One goal of the project is to provide safe, reliable and affordable access to space.

Fourteen single-engine test firings of an earlier version the unique Aerospike engine, developed by the Rocketdyne Propulsion and Power Unit of the Boeing Company, were successfully completed earlier this year.

The difference between the linear Aerospike engine and conventional rocket engines is the shape of the nozzle. Unlike conventional rocket engines that use a bell nozzle to constrict expanding gases, the Aerospike nozzle is V-shaped and called a ramp.

The hot gases are shot from chambers along the outside of the ramp's surface. This unusual design allows the engine to be more efficient and effective than today's rocket engines.

At least nine test firings of the twin flight engines are planned at Stennis before they are delivered to Lockheed Martin's X-33 assembly facility in Palmdale, Calif.

Marshall planning for consolidation move; Directorate personnel to relocate under one roof

by Debra Valine

Since Marshall's reorganization in May 1999, each of the directorates has had personnel located in various buildings across the Center.

To help bring each directorate's personnel together under one roof, Marshall's Center Operations Directorate is coordinating a consolidation move to begin this fall.

"After the big move to implement the Center's reorganization, there were some adjustments that needed to be made, and some requirements for locations that we were not able to deliver in that first move," said Center Operations Director Sheila Cloud. "With this consolidation move, we will address those issues."

"This consolidation of personnel will satisfy many objectives, including better utilization of Marshall's office space to accom-

modate new hires and additional support contractors," said Edwin Jones, deputy manager of Marshall's Facilities Engineering Department.

Among the moves:

- Information Services Department Office will move from Bldg. 4666 to the 4200 Complex this calendar year.
- Beginning late this year, the Structures, Mechanics and Thermal Department of the Engineering Directorate will relocate from Bldg. 4610 to 4666/4566 to gain additional space to locate additional support contractors on-site.
- The Flight Projects Directorate will move from Bldg. 4203 to Bldg. 4610 by early summer 2001.
- And the Space Transportation Directorate will consolidate into Bldg. 4203.

See **Move** on page 10

There's no expiration date on awareness

Our culture has a perplexing habit of raising public awareness and then dismissing it again, often as abruptly as we purchase and toss out perishable groceries. We declare "National [Your Topic Here] Months" devoted to everything from health issues and social injustices to the most obscure hobbies and special interests. These crusades receive a varying amount of media attention and public support — and then they're gone, dropping off our mental radar for another year, if indeed they ever made a blip in the first place.

Director's Corner

It's commendable that we as Americans express a collective desire to improve awareness of social issues, but it's unfortunate how easily and quickly some of them are cast aside, lost amid the slew of obligations, deadlines, personal affairs and other concerns crowding our daily lives.

We can't be crusaders for social justice all the time, but we owe it to ourselves and to those around us to make the effort not to relegate simple awareness to 30-day periods once each year.

National Disability Awareness Month comes to a close this week. We pride



Photos by Adeline Byford, NASA/Marshall Space Flight Center

Libby Youmans, right, receives the Professional Employee of the Year Award from Joyce Smith.

ourselves on challenging you to give your very best — but at the same time we are dedicated to keeping working at Marshall from being a physical challenge to anyone.

This month, for the second year in a row, a Marshall team member received the Huntsville Employee of the Year Award, which is given annually by the Huntsville Area Committee on Employment of People with Disabilities. Libby Youmans, NASA program analyst for the Materials Science

Research Facility at Marshall, received the honor for her exceptional service to Marshall. Libby is hearing impaired. Procurement officer David Brock also was honored this year for his outstanding work in Marshall's Small Business Program. David is sight impaired.

The Marshall Center itself received a Partnership Award for our continued efforts to raise disability awareness in the community. But I am proudest of the accomplishments of these two individuals.

That pride doesn't fade away at the end of the month, because on Nov. 1, Libby and David and the 118 other employees with disabilities at Marshall will still be hard at work. Their disabilities will still be there, but so will their abilities. They will continue to achieve their personal and team goals — as well as the goals of NASA, the Marshall Center and the American space program.

Disabilities do not disappear at the end of a campaign month — neither do abilities; likewise, there should be no expiration date on awareness.

There are more than 49 million disabled citizens in this country.

Keep them in mind *every* month.

— **Art Stephenson**
Marshall Center Director



David Brock, right, receives a Certificate of Achievement from Joyce Smith during the National Disability Awareness celebration Oct. 3.

Marshall-developed knee brace featured at White House observance

Marshall Center's selectively lockable knee brace technology was one of 15 technologies featured at a recent White House observance of the 10th anniversary of the signing of the Americans with Disabilities Act.

The technology was one of only eight technologies presented to Vice President Al Gore, and the Marshall Center was the only NASA Center or government agency honored. October is Americans with Disabilities Month.

Vernotto McMillan, Marshall Technology Transfer Department's deputy manager, and Gary Horton, chief executive officer of Horton Orthotics Corp. of Little Rock, Ark., presented the technology to the vice president at the celebration at his home.

The knee brace technology resulted from the design of actuators for rocket engine thrust vector control systems that pivot a rocket engine to provide steering capability for space transportation systems, said McMillan.

A team of five Marshall engineers, including Neill Myers, the device's principal inventor, and co-inventors Michael Shadoan, John Forbes, Kevin Baker and Darron Rice, worked with Horton's Orthotic Lab to perfect, then ready the product for commercialization.

The technology is unique because it results in quicker, less painful rehabilitation by allowing movement of the knee. Knee braces on the market prior to this design locked the knee in a rigid, straight-leg position.

The selectively lockable knee brace attaches to a patient's thigh, with the lower part secured to the foot. It allows the knee to bend when weight is not on the heel, then locks into position when weight is placed on the heel.

"This technology is a source of pride for everyone at Marshall," said Sally Little, manager of Marshall's Technology Transfer Department. "It is a perfect example of space propulsion technology being transitioned into a practical application on Earth — an application that will improve the quality of life for countless rehabilitation patients."

Flu shots available for Marshall team members

The Marshall Center is offering flu shots to all civil servants and contractors from noon-3 p.m. Thursday in Bldg. 4200, room G13D, and Oct. 21 from noon-3 p.m. in Bldg. 4610, room 1054.

Employees must have a NASA-issued badge to get the shot. Those employees getting flu shots on either day are asked to wear short sleeves.

The possibility exists that an emergency call may occur during administration of these shots. HEMSI paramedics will be giving the flu shots, and they may be required to respond to an emergency. Should this happen, employees are asked to be patient until back-up help arrives.

During the times the flu shots are being administered, there will be limited staff at

the Medical Center. Please arrange any non-emergency visits and routine allergy injections around these times. Any scheduled appointments will be kept.

After receiving a flu shot, it is advised that an individual not give blood for about 2-3 months, as a false reading for the HIV virus is possible. For more information, call the American Red Cross at 536-0084.

Reaching a propulsion agreement



Photo by Emmett Given, NASA/Marshall Space Flight Center

Center Director Art Stephenson, left, and Rep. Bud Cramer, center, learn about advanced plasma propulsion from Dr. Francis Thio while touring Marshall's Propulsion Research Center Oct. 16.



Photo by Dennis Olive, NASA/Marshall Space Flight Center

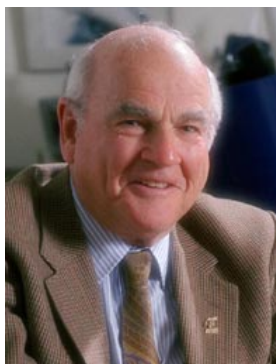
Members of the Tri-lateral Alliance sign a memorandum of agreement at the Marshall Center Oct. 16. Seated from left are Leah Veaeer from the Department of Energy's Oak Ridge Office; Marshall Center Director Art Stephenson; and Col. Mike Heil of the Arnold Engineering Development Center. Standing from left are David Myers, Lockheed Martin; Fred Schramm, Technology Transfer Department and David Hall, Engineering Directorate.

Nobel Prize laureate appointed senior NASA adviser

NASA Administrator Dan Goldin recently named Dr. Baruch Blumberg, director of NASA's Astrobiology Institute and winner of the 1976 Nobel Prize for Physiology or Medicine, as his senior adviser.

As senior adviser, Blumberg will provide guidance for NASA's newly created enterprise, the Office of Biological and Physical Research in its efforts to develop an interdisciplinary research program focused on biology, bringing together physics, chemistry, biology and engineering. Blumberg also will continue in his role as director of the Astrobiology Institute.

"Dr. Blumberg's commitment to science is only exceeded by his commitment to excellence. NASA and the American taxpayers will greatly benefit from his contributions to the space program," said Goldin. "His many contributions to the fields of human biology, infectious disease and genomics will help lay the foundation needed to integrate biological research and technol-



Blumberg

ogy throughout NASA. I am delighted that he has agreed to accept this position." NASA will begin an immediate search to fill key positions within the new enterprise as well as the associate administrator vacancy. NASA Chief Scientist Dr. Kathie L. Olsen, along with Blumberg, will lead the search team to fill key opportunities within the enterprise. Olsen will continue to serve as acting associate administrator until a replacement is named.

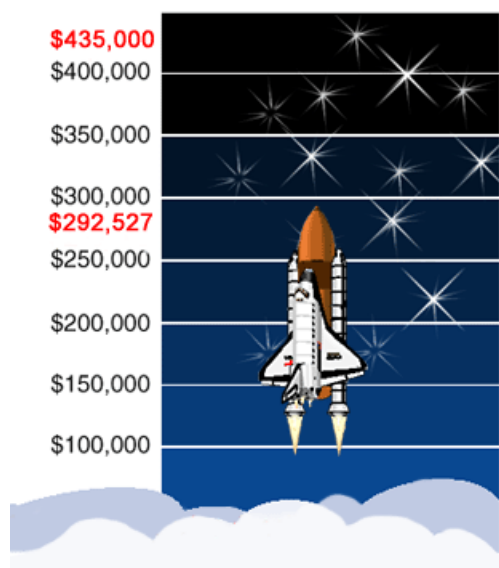
"The enterprise was restructured to strengthen NASA's ability to meet the challenges brought about by the growth in areas such as molecular biology, nanotechnology, information technology

and genomics," said Olsen.

"NASA science is filled with discoveries of phenomena never seen before. This new enterprise will strengthen our ties with academia and other federal agencies to enlist their creative energies toward these discoveries," said Blumberg.

Blumberg received a medical degree from Columbia University in New York and a doctorate in biochemistry from Oxford University in England. For more than 35 years, he has been associated with the Fox Chase Cancer Center in Philadelphia, Pa., and is a professor of medicine and anthropology at the University of Pennsylvania. He was master of Balliol College in Oxford, England, between 1989 and 1994, and has taught human biology at Stanford University in California. Since his discovery of the hepatitis B vaccine and its widespread availability in 1982, the number of people infected with the disease worldwide has fallen dramatically.

Blumberg and his wife, Jean, are the parents of two daughters and two sons.



As of Oct. 19, the following organizations had 100 percent Combined Federal Campaign participation: SD30 AD01 AD40 AD42 CD03 DE01 ED38 MP41 RS02 AD03 AD41 AD50 CD70 ED03 MP01 MP71 RS30



Speaker series continues Monday

The Combined Federal Campaign Speaker Series continues Monday through Nov. 3 with representatives from St. Jude's Hospital, Hospice Family Care Home, United Cerebral Palsy, American Cancer Society, Christmas Charities Year-Round, and the Alzheimer's Association.

The schedule is as follows:

- 1-2 p.m. Oct. 30, Bldg. 4610, room 2081, Lori Laird, St. Jude's Research Hospital
- 9-10 a.m., Oct. 31, Bldg. 4487, room C209, Sharon Ball, Hospice Family Care Home
- 9-10 a.m., Nov. 1, Bldg. 4200, room 409, Cheryl Smith, United Cerebral Palsy of Huntsville and Tennessee Valley Inc.
- 1-2 p.m., Nov. 1, Bldg. 4203, room 5002, Laura Richardson, American Cancer Society
- 9-10 a.m., Nov. 2, Bldg. 4612, room 1008, Gerri Mills, Christmas Charities Year-Round Inc.
- 9-10 a.m., Nov. 3, Bldg. 4201, room 437, Mary Lou Kraatz, Alzheimer's Association, North Alabama Chapter

Ten ways to sabotage your safety program

by Joseph M. Cwikla

Wait until it happens, overact, forget it

Some companies wait until they have a serious accident to get serious about safety. Then come the big speeches, new procedures and renewed emphasis. This focus usually lasts two or three months, then it's back to business as usual. Employees know the pattern, so they just wait it out. The message: No one is steering the boat. *An effective program requires a consistent, proactive approach.*

Focus on injuries

A company that focuses solely on accidents that have resulted in injuries is missing many opportunities to prevent another injury from occurring. Accident statistics show that for every serious injury, many minor accidents or near-accidents have occurred which may have foretold that injury. *A firm must evaluate the total accident picture, including incidents that result only in property damage.* It should also inspect for hazards and observe work practices.

Scare the numbers underground

"The goal of each department shall be no lost workday cases and a 15 percent reduction in recordable injuries." While the intent may be admirable, do edicts of this nature help or hinder safety efforts? If emphasis is placed on injury statistics goals, what will happen? People find ways not to report incidents. Employees may not report injuries and self-administer first aid. As a result, some of the information that management needs to run an effective program remains hidden. *Management should focus on safe work practices rather than on accident statistics.*

Go for the quick fix

"We have some serious safety problems — solve them now!" Some problems can be corrected immediately, and they certainly should be. However, meaningful changes in the way we approach safety take time. Safety bingo, awarding prizes for not getting injured and raffling TVs and cars are all quick fixes that may make numbers look good in the short run, but can destroy management credibility — and eventually employee morale. *There are no quick fixes for a poor program.* It takes time and effort to improve safety, just as it does to improve quality, productivity or costs.

Find someone to blame

A serious accident has occurred. Whose fault was it? "He was careless"; "he's accident prone"; "she didn't follow the procedure"; "I've told him a hundred times to wear eye protection." Do these phrases sound familiar? Does blaming the injured employee solve the problem? No. What do these "excuses" really mean? They indicate that management is not controlling the program. Would you handle a product quality problem this way? I doubt it. *Correct problems in your management system to build-in lasting success.*

Measure failures

"Tom: one serious and five recordable injuries in your group

— you have to do better! Judy: no serious and two recordable injuries in your group — keep up the good work!" In truth, Tom put a lot of effort into the safety program and Judy did nothing. Judy was lucky this quarter, or perhaps some injuries were not reported. Develop a program with specific, required safety activities and measure positive efforts in these areas. The results will eventually take care of themselves.

Let accident results dictate actions

Have you ever had a "near miss" accident in which someone could have been seriously injured or even killed, but no one was?

Did you investigate with the same intensity you would had someone died? Did you think it would take too much time? *Don't wait for a serious injury or fatality to conduct a serious investigation.* If someone does die, you'll find time to investigate thoroughly and you'll receive plenty of help from OSHA, the local police, the news media, your insurance company and eager attorneys.



Don't train people in safety

"Safety is just common sense, and they're adults, not little kids. We don't need to train them to not get hurt!" In most cases, "common sense safety" isn't so common. When employees learn safety basics, they can recognize hazards and take appropriate corrective measures. Combine safety training with knowledge of the job and equipment, and you have the best safety problem solvers. *Train workers to recognize hazards, conduct inspections, train others, investigate accidents and enforce rules.*

Don't get everyone involved

"Our safety coordinator handles that. I have other things to do." Have you heard that before? Just as everyone must be involved in quality, productivity and cost control, everyone — at every level of the organization — must be involved in safety. Employees watch their bosses to see what is important to them. Do they respond to safety problems? Do they follow safety rules? Do they understand the hazards? Actions speak louder than words. *Make safety everyone's job by including it in your performance appraisal system.*

Don't learn from mistakes

"Accident Investigation Findings: The cause of accident: Worker was not paying attention. Corrective action: Told employee to be more careful." Did this exercise accomplish anything? Yes — it proved to workers that management really does not care about solving safety problems. Superficial accident investigations do more harm than good. We obviously want to prevent all accidents. If they do occur, we should at least learn from our mistakes. What failures in our safety system allowed this accident to occur? *Train people to investigate accidents correctly and, eventually, you will not have any to investigate.*

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Marshall team shares time on Community Service Days



Photo by Doug Stoffer, NASA/Marshall Space Flight Center

Marshall Center Director Art Stephenson, right, and Sandy Such, executive support assistant for the associate director, build a wheelchair ramp for Care Assurance System for the Aging and Homebound (CASA). CASA is one agency supported during Marshall's Community Service Days Oct. 9-20.



Photo by Terry Leibold, NASA/Marshall Space Flight Center

Ona Elliott, Becky Brewer and Dana Tipton from the Office of the Chief Financial Officer, brighten the day for the children, their parents and the staff of Huntsville Hospital. The trio performed a skit, "Guess How Much I Love You."



Photo by Terry Leibold, NASA/Marshall Space Flight Center

Community Service Days volunteers paint a house for Care Assurance System for the Aging and Homebound.



Photo by Terry Leibold

Tereasa Washington, director of Marshall's Customer and Employee Relations Directorate, sorts clothes for Christmas Charities Year-Round.



Photo by Terry Leibold, NASA/Marshall Space Flight Center

Marshall volunteers repair bicycles at Christmas Charities Year-Round.

Employees, guests win door prizes at CFC kickoff

Congratulations to the following employees for winning door prizes at the Combined Federal Campaign kickoff ceremony Oct. 5:

Pat Benson, ED14; Amethyst Holmes, Girl Scouts; Marissa Krienke, TD62; Regina Hawkins, G10A/DCMC; Zelma Snell, ED38; Yvonne Holmes, Girl Scouts; Robert Champion, CD40; Tiffany Hammonds, Sparkman High; Bryce Marshall, Sparkman High; Bertha Gildon, ED33; Clara Jones, PS20; Tami McGhee, ED14; Bernice Blount, Hosp. House; Vanita Brown, FD22; Nadra Hatchett, ED37; Angela Storey, CD40; James Blount, Hosp. House; and Sorita Wherry, ED14.



Photo by Terry Leibold

To prepare a house for painting, a volunteer removes old paint.



Photo by Emmett Given

Bruce Askins works on playground equipment at Lincoln Elementary School.



Photo by Emmett Given

Roslin Hicks, this year's Combined Federal Campaign chairwoman, paints playground equipment at Lincoln Elementary School.



Photo by Terry Leibold, NASA/Marshall Space Flight Center

Above, Gay Watson and Tom Knight assemble toys for Christmas Charities.

Right, Shirley Moore; Gloria Ayers; Nikki Miller — Bubbles; Debbie Gonzalez — Tootie; Kathy Wyckoff; Becky Brewer; Ona Elliott; and Dana Tipton deliver gifts and smiles to the children of Huntsville Hospital's Pediatric Unit.



Photo by Terry Leibold, NASA/Marshall Space Flight Center

Marshall Center smoking policy directs smokers outside

The Environmental Protection Agency studies regarding "passive" smoke have determined that environmental tobacco smoke is a Group A carcinogen, an agent known to cause cancer in humans.

In recognition of Marshall's responsibility to provide a work environment that is as safe and healthy as possible for its workers and visitors, the following smoking policy is in effect:

Smoking is prohibited in all Marshall-owned buildings — both local and remote sites.

Smoking is prohibited in all taxicabs, government-owned vehicles, administrative aircraft, outside any building/work area where there is an inherent risk of fire or explosion and in front of air intake ducts.

Employees desiring to smoke will be permitted to go outside Marshall buildings to smoke.

However, absences from the work site for this purpose should be kept to minimum and work assignments take priority over such absences.

Reasonable protection from the weather will be provided for smokers.

To assist employees who would like to quit smoking, the Marshall Medical Center offers free smoking cessation classes for Marshall employees. For more information on this program, call Pat Mirandy at 544-7570.

Marshall supervisors are responsible for assuring that this policy is followed in their respective organizations.

It is also requested that smokers be considerate of nonsmokers and visitors by not congregating directly in front of the access to Marshall buildings. Congregating smokers can make the entrance to and exit from a building difficult and be an irritant to individuals who are allergic to smoke.

It is also suggested that individuals with severe allergies avoid using building entrances that provide maximum weather protection to smokers.

Marshall team develops space recycling technology

Marshall's Vapor Compression Distillation experiment left Marshall Oct. 20 bound for Kennedy Space Center in Florida.

This technology will be used to reclaim wastewater from crewmember urine onboard the International Space Station. The experiment is a full-scale demonstration of the technology that is scheduled to fly on STS-107 in June 2001.

"The entire VCD Flight Experiment Team is to be congratulated for reaching this major milestone," said Scott Croomes, manager of the Flight Systems Department. "It represents the culmination of a lot of long hours and personal sacrifice to overcome the technical challenges involved. The entire team — many more from across the Center than are pictured — can be justifiably proud of this accomplishment."



The VCD Flight Experiment Team includes, from left, David Long, Rex Graves, Cindy Hutchens, Dennon Clardy, Betty Tittsworth, Walter Schneider, and Keith Parrish, who have worked three years to ready this experiment.

NASA safety system steers pilots clear of close calls

Overcrowded airports mean overcrowded runways, taxiways and ramps. On-the-ground collisions at the nation's airports are occurring more frequently, but NASA engineers have developed a way to keep aircraft on track and away from dangerous encounters.

It is an advanced cockpit display system, developed at NASA's Langley Research Center in Hampton, Va. The Runway

Incursion Prevention System would give pilots and air traffic controllers an early warning if another plane or ground vehicle is about to intrude onto the runway.

NASA's Runway Incursion Prevention System integrates several advanced technologies into a surface communication, navigation and surveillance system for flight crews and air traffic controllers.

It combines a head-down display of an electronic moving map of airport runways

and taxiways with a head-up screen that gives the pilot real-time guidance. The system shows and sounds alerts if another plane or vehicle is about to encroach onto the runway. It also uses specially developed computer software, Global Positioning System signals and ground technologies developed by the FAA's Runway Incursion Reduction Program.

For more information, visit the Web at: <http://avsp.larc.nasa.gov>



Photo by Emmett Given, NASA/Marshall Space Flight Center

Worlund wins 'Awareness Award'

The Space Flight Awareness Leadership Award was presented Oct. 3 to Len Worlund, center, chief scientist in the Space Shuttle Main Engine Project Office. On hand for the presentation were Marshall Center Director Art Stephenson, left, and astronaut Heide Piper, right.

Galileo, Cassini double-team the king of planets

Two NASA spacecraft are teaming up to scrutinize Jupiter during the next few months to gain a better understanding of the planet's stormy atmosphere, diverse moons, faint rings and vast bubble of electrically charged gas.

The joint studies of the solar system's largest planet by the Galileo and Cassini spacecraft will also resemble the passing of a baton from the durable veteran to the promising rookie, say mission controllers at the Jet Propulsion Laboratory in Pasadena, Calif.

Galileo has been running laps around Jupiter since December 1995, continuing to produce scientific discoveries after surviving more than double the orbital time and triple the radiation exposure originally intended. It will pass close to Jupiter's largest moon, Ganymede, on Dec. 29.

Cassini left Earth on Oct. 15, 1997, bound for Saturn with a dozen scientific instruments to carry into orbit there and a European-made probe, Huygens, to drop onto Saturn's biggest moon in 2004.

Cassini will make its closest approach to Jupiter on Dec. 30. It will still be nearly 6 million miles (10 million kilometers) away, well outside the orbits of Jupiter's four large moons — Io, Europa, Callisto and Ganymede — but within the orbits of nine small ones.

The spacecraft began transmitting Jupiter pictures and data this month.

"We have a chance to make observations with a well-instrumented spacecraft that has more capabilities than any spacecraft that has previously visited Jupiter," said Robert Mitchell, the Cassini program manager. "Fortunately, Galileo is still operating there, so we can get a synergistic effect in studies

of Jupiter by having spacecraft at two different locations in the vicinity of Jupiter at the same time. That's not something we could have counted on in 1995."

One joint study will examine how the "solar wind" of charged particles speeding away from the Sun buffets Jupiter's magnetosphere, the bubble of charged gas rotating around Jupiter under the control of the planet's magnetic field. In November, Cassini will be in the solar wind upstream of where the wind hits the magnetosphere, while Galileo will be inside the magnetosphere.

Cassini will monitor fluctuations in the solar wind while Galileo watches the response of Jupiter's magnetosphere to those fluctuations.

During the past five years, Galileo has measured frequent changes in the density of particles in the magnetosphere, but researchers have not had the opportunity to connect the effects to specific changes in the solar wind, said Dr. Torrence Johnson, Galileo project scientist.

Physicist Dr. Scott Bolton, on science teams for both Cassini and Galileo, said, "Having two spacecraft there at once is possibly the only chance in our lifetime to simultaneously connect changes in the solar wind to conditions inside Jupiter's giant magnetosphere."

Getting a better grasp on how Jupiter's magnetosphere acts and reacts will advance understanding of the smaller magnetosphere surrounding Earth and larger ones affecting areas of the galaxy where stars are being born, Bolton said. Disturbances in Earth's magnetosphere can disrupt electrical and communications systems. More information on the joint spacecraft study of Jupiter is available at:

<http://www.jpl.nasa.gov/jupiterflyby>

Olympic committee using urban heat island data

In an effort to leave Salt Lake City in better shape after the Olympics than it was before, the White House Millennium Council and Salt Lake Olympic Organizing Committee (SLOC)

is working with NASA.

NASA technology stemming from the urban heat island studies conducted by Dr. Jeffrey Luvall, of Marshall's Global Hydrology and Climate Center, is



Luvall

being used to pinpoint areas around Salt Lake City where trees need to be planted. The Council, in conjunction with American Forests and Salt Lake Olympic Committee, also plans to plant trees in Sarajevo, Bosnia and Herzegovina, home of the 1984 Winter Olympics, where trees need to be planted to restore forests destroyed by war.



At the announcement, from left are, H.E. Igor Davidovic, ambassador for Bosnia Herzegovina; Mitt Romney, president and chief executive officer of the Salt Lake Olympic Organizing Committee; Deborah Gangloff, executive director of American Forests; Richard Rominger, U.S. Department of Agriculture; Deborah Armstrong, U.S. gold medalist at the 1984 Winter Olympics in Sarajevo; Mickey Ibarra, White House Task Force on the 2002 Salt Lake City Olympic and Paralympic Games; and Ellen McCulloch-Lovell, of the White House Millennium Council.

Move

Continued from page 1

- In addition, some personnel will relocate from substandard office space at Marshall to nearby off-site leased space.

Issues driving this consolidation include Marshall's NASA-directed growth in mission scope, the hiring of additional civil servants and the increase in the number of support contractors that will be required to handle the increased mission.

"The good news is the hiring of about 250 new civil servants," Cloud said. "That hiring drives the repositioning of some of the organizational work because of the additional people. There is also an expected growth in contractor support as organizations execute their programs."

During planning of the consolidation move, substandard space — such as trailers — has been identified. Personnel

will move out of trailers and the trailers will then be removed.

While Center Operations took the lead in developing options to accommodate the Center's requirements, the Center's Facilities Utilization Review Board — made up of senior managers from almost every directorate — adopted the conceptual plan unanimously.

"Total cooperation between the directorates made this work," Cloud said. "This really supports the Center's values. In keeping with our value of people being most important, we are getting people out of inferior office space. We are trying to come up with an overall excellence for the Center where everybody's requirements are met.

"It took teamwork and innovation of Center Operations people to go off and come out of the box to develop the plan," she said. "We had to lease buildings that are not part of Marshall."

The consolidation will take into account office space standards as determined by Marshall policies and directives.

"We are planning to move people as a group one directorate at a time over several months," Jones said. "Our current schedule is to have the project completed by June or July 2001."

"We will do a minimum amount of refurbishment," said Clark Boaz, the integration team lead within the Facilities Engineering Department. "And we will be able to do all of this at a cost savings to NASA."

"By accommodating some off-site contractors on-site, the expected savings offset the cost to implement the total consolidation plan," Boaz said. "It also helps create synergy between government and contractor personnel."

The writer, employed by ASRI, is the Marshall Star editor.

Red Cross offers Halloween safety tips for children, adults

With witches, goblins and super-heroes descending on neighborhoods across America, the American Red Cross offers parents some safety tips to help prepare their children for a safe and enjoyable trick-or-treat holiday.

Halloween should be filled with surprise and enjoyment, and following some common sense practices can keep events safer and more fun.

- Walk, slither and sneak on sidewalks, not in the street.
- Look both ways before crossing the street to check for cars, trucks and low-flying brooms.
- Cross the street only at corners.
- Don't hide or cross the street between parked cars.
- Wear light-colored or reflective-type clothing so you are more visible. And remember to put reflective tape on bikes, skateboards and brooms, too.
- Plan your route and share it with your family. If possible, have an adult go with you.
- Carry a flashlight to light your way.
- Keep away from open fires and candles. Costumes can be extremely flammable.
- Visit homes that have the porch light on.
- Accept your treats at the door, and never go into a stranger's house.
- Use face paint rather than masks or things that will cover your eyes.
- Be cautious of animals and strangers.
- Have a grown-up inspect your treats before eating.
- And don't eat candy if the package is already opened.

Small, hard pieces of candy are a choking hazard for young children.

No tricks, all treats at Space & Rocket Center Halloween parties

The U.S. Space & Rocket Center is having two Halloween parties this year.

From 6-9 p.m. Monday, children 13-18 are invited to costume judging; simulators; the movie, "Men in Black," and the "Pop Rox" laser show at the Spacedome Theater.

Children 12 and under will have costume judging, arts and crafts, simulators and two showings of an animated movie from 6-8:30 p.m. Tuesday.

Cost for each party is \$3 for adults and youth older than 13; \$2 for child admission; children under age 3 are free. Popcorn and drinks are \$1 each.

No reservations are required. Movies and laser shows are limited to the first 288 people to arrive at the Spacedome Theater. Simulators include Space Shot, weather permitting; G-force Accelerator; Mars Mission and Discovery Wings.

Party entrance is through the main lobby. For more information, call 721-7152.

Center Announcements

- ✦ **2000 FEHB Health Fair** — The 2000 Federal Employees Health Benefits (FEHB) Open Season Health Fair will be from 9 a.m.- 3 p.m. Nov. 7 in Bldg. 4203, room 1201. There are many changes in benefits, premium rates, deductibles and co-pays. Please plan to attend if possible. Brochures will be available from the attending health carriers. Open Season is Nov. 13 through Dec. 11.
- ✦ **Veterans Day Parade** — The Marshall team members and their families are invited to participate in the 2000 Huntsville Veterans Day Parade at 11 a.m. Nov. 11 starting at the Hilton Hotel in Huntsville. Marshall team members are asked to wear NASA/MSFC shirts or jackets, if possible. To sign up, visit the Web at: <http://inside.msfc.nasa.gov/VETDAY/flyer.html> Deadline is Nov. 3.
- ✦ **American Education Week Luncheon** — The American Education Week Luncheon will be at 11 a.m. Nov. 13 at the Huntsville Hilton. Dr. Richard G. Carpenter, president of Calhoun Community college will speak. Tickets are \$15 each. Make reservations by Oct. 30 by calling Jane McBay at 544-8800.
- ✦ **Award Term Contracting Seminar** — The National Contract Management Association will hold a seminar on "Award Term Contracting" from 8 a.m.-4 p.m. Nov. 1 at the Tom Beville Center on Sparkman Drive. Award Term Contracting is an innovative technique to incentivize contractor performance. It rewards excellent performance and penalizes poor performance. For more information, call Carl Ehle at 971-7327.
- ✦ **Vietnam Memorial Wall** — The traveling Vietnam Memorial will be in Huntsville 24-hours daily Oct. 26-29 in Big Springs Park. Opening ceremonies begin at 10 a.m. Closing ceremonies are 5 p.m. Oct. 29.
- ✦ **Discount Chorus Tickets** — The NASA Exchange has discount tickets to concerts being presented by the Huntsville Community Chorus Association. NASA employees, retirees and contractors can receive a 10 percent discount on tickets by showing their NASA badge at the association office at 3312 Long Ave. in Huntsville. For more information, call 533-6606. For the season schedule, visit the Web at: <http://www.thechorus.org/HCCA2000.pdf>.
- ✦ **ASEM Meets** — The American Society of Engineering Management (ASEM) will meet at noon Nov. 7 at the Holiday Inn by Madison Square Mall in the 5th Avenue Banquet Room. ASEM exists to promote engineering management and can be reached through the national Web site at: www.engineering-management.org. For local questions and reservations, please call: Pamela Wallace Takada at 544-3645. James Kennedy, director of Marshall's Engineering Directorate, will be the featured speaker. The cost is \$10 per person and will be collected at the door.
- ✦ **Black History Month Volunteers** — Volunteers are being accepted to chair or serve on various committees for the Year 2001 Black History Month activities. To volunteer, send an e-mail to james.bailey@msfc.nasa.gov or jackie.pates@msfc.nasa.gov. Volunteers will receive notification of meeting dates and times.
- ✦ **Cha-cha, Rumba Lessons** — The MARS Ballroom Dance Club has scheduled cha-cha and rumba lessons on Mondays in November in the Parish Hall of St. Stephen's Episcopal Church at 8020 Whitesburg Dr. Beginner and intermediate classes will be from 7-8 p.m. and beginner classes from 8-9 p.m. at a cost of \$6 per person per night. The instructor is Don Worrell. For more information, call Woody Bombara at 650-0200.
- ✦ **Photo Lab Retirees** — Photo Lab retirees meet the first Tuesday each month at 9:30 a.m. at Shoney's on University Drive and Memorial Parkway. For more information, call Carl Dow at 461-8181.

Employee Ads

Miscellaneous

- ★ Used 2-row planter and cultivator for 3-point hitch tractor, \$200. 464-0667
- ★ Utility trailer, 4x8, tilt bed, 1200 lb. capacity, \$100 obo. 534-8186
- ★ Daewoo TV, 15", \$60; Daewoo microwave, 0.6 cu. ft., \$50. 551-0041
- ★ Depression glass; crystal; new animated 3' Christmas Caroler dolls for outdoor décor. 539-8401
- ★ Small wood stove/heater w/glass front, \$150. 851-1854
- ★ Pennsylvania House dining room table and 4 chairs, cherry, \$1,000. 882-1097
- ★ Queen-size sofa sleeper, \$75; LR sofa and 2 chairs, \$160 set obo. 534-3393 after 6 p.m.
- ★ Freestanding basketball goal, \$50; 10-speed bike, \$40; Yamaha keyboard, \$75; rubber bed mat for S-10, \$25. 851-8085
- ★ "Learning the Piano" kit, \$20. 722-9483
- ★ 1998 Champion bass boat, 181SC 150HP Mariner, 3 depth finders, \$12,000. 776-4624
- ★ External Jazz drive, 1 GB, \$75; three 1 GB disks, \$75; Adaptec SlimSCSI PCMCIA card w/cables, \$80. 325-6000
- ★ Craftsman mower, 14.5HP, 42", \$250; Bissel carpet cleaner, \$30; Family Tree Maker genealogy program, 4 versions, make offer. 682-5181
- ★ Whirlpool freezer, approx. 12 cu. ft., \$150; Women's 10-speed bike, 26", \$100. 534-8858 after 5 p.m.
- ★ Large horizontal compressor, \$150. 881-9421
- ★ Snap-on toolbox w/tools, \$6,000; trailer w/ramp, new tires/bearings, \$200. 858-5552
- ★ Boxer puppies, 8 weeks old, male & female, brindle & fawn, AKC champion bloodlines. 420-8101
- ★ Cassiopia E-11 PDA w/case, cradle and serial cable, \$175. 961-1291
- ★ 1996 Coleman pop-up camper, a/c, 3-way refrigerator, awning, sleeps 7, front storage, \$3,800. 830-5285
- ★ Children's battery-operated car, 2-seats, 2-speed, \$90. 772-4153
- ★ 1992 SeaDoo/Bombardier Speedster 14' boat, twin 85HP jets, Bimini tip, boat cover,

\$8,100. 931-962-1683

- ★ Swing set: slide, 2 swings, swing bar, carriage swing, you haul it away, \$40 obo. 880-7310
- ★ Console TV; VCR; White Westinghouse refrigerator; boys clothes, sizes 6 & 8. 539-5570
- ★ 1998 Honda Rebel 250, 1300 miles, red/black, cover included, garage kept, \$2,600. 828-1713
- ★ 1992 Suzuki GSF-400N Bandit motorcycle, 14K miles, \$2,400. 859-0729
- ★ Electric guitar, Danelectro 1956-U2 (re-issue), \$175. 355-6858
- ★ Alabama/Central Florida football tickets, two, Homecoming/Oct. 28, 15-yard line, \$52/pair. 233-1248
- ★ "Ambassador" fireplace insert w/thermostat & variable speed blower, \$250 obo. 830-6584
- ★ LT-5V turntable (linear tracking, vertical format) \$100; Propane heater, 30K btu, auto, \$150 obo. 828-6213

Vehicles

- ★ 1976 Chevy truck, 4-speed, 100K miles, \$1,400 obo. 880-0603
- ★ 1984 Toyota Cressida S/W, white, original owner, 96K miles, \$2,000. 881-4229
- ★ 1998 Ford Expedition Eddie Bauer, white, 45K miles, \$24,000. 890-0297
- ★ 1996 Blazer LT, 4-door, 2/4 wheel drive, automatic, leather, CD, 72K miles, maroon, \$11,500. 880-9025
- ★ 1992 Corvette convertible, 73K miles, \$15,995; 1994 Nissan Pathfinder, 4x4, automatic, \$7,995. 885-0170
- ★ 1994 Nissan Altima GXE, 4-door, auto, air, pw/pdl, tan, 92K miles, \$4,600. 464-5060
- ★ 1994 Jeep Cherokee Sport, green, 6-cyl., automatic, am/fm/CD, alloy wheels, 68K miles, \$7,950. 883-6416
- ★ 1994 Dodge Grand Caravan SE, 103K miles, one-owner, integrated child seat, new tires, \$6,500 obo. 837-5590
- ★ 1997 Ford Expedition, Eddie Bauer, 4x4, red, lease vehicle, \$24,000. 883-1195
- ★ 1996 Ford Windstar LX, white/gold, tan leather, captain chairs, dual air, 101K miles, \$7,945. 534-7981
- ★ 1991 Buick LeSabre, white w/blue, all-

power, a/c; new brakes, rotors, tires, struts, battery; 114K miles, \$2,795. 828-0070 after 5 p.m.

- ★ 1995 Chrysler Concord, 77K miles, \$7,500 obo. 232-4338
- ★ 1997 Chevy Camaro convertible, red w/white top, 6-cyl., 5-speed, pw/pl, CD, 42K miles, new tires, \$13,800. 232-0246
- ★ 1989 Chevrolet Blazer S-10, automatic, 4.3 liter V-6, CD-player, air, white, \$2,400. 883-8947
- ★ 1992 Buick Regal Custom, one-owner, maroon w/maroon interior, am/fm cassette, a/c, pw/pl, 25/30 mpg, 102K miles, \$3,950 obo. 534-4785
- ★ 1996 Nissan Maxima SE, white/black leather interior, moon roof, Bose, 60K miles, \$13,300. 882-7376

Lost

- ★ Jewelry, pin, gold leaf w/brown stone. Call 544-9608 if found

Wanted

- ★ Table, 4x8 or 3x6, or something close w/4 legs. 682-5181
- ★ Ride on Mon. - Fri. Mornings, from Mtn. Gap area to Lee High School. 544-0169
- ★ Ride to work, 7 a.m. to 3:30 p.m., Governors Drive/Huntsville Hospital area, will pay \$6 per day. 534-5398
- ★ Styrofoam packing peanuts. 461-8369

Sports

MARS Tennis Club — The end-of-season Closed Hi-lo/Cook-out will be Oct. 28. Warm-up begins at 8 a.m. with play starting at 8:30. If you plan to participate, call Ronda Moyers at 544-6809, or send e-mail to: ronda.moyers@msfc.nasa.gov

Winners for the September hi-lo were: first place — Jimmy Whitaker and Susan Green; second place — Mike Elrod and Ronda Moyers; third place — Phil Hays and Karen Thompson; fourth place — Bill Boglio and Deborah Kromis; and fifth place — Larry Newman and Liz Minamitani.

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